other univalent anionic ligand; two such X's joined to form an anionic chelating ligand; or, one or more neutral non-hydrocarbyl atom containing donor ligand, e.g., phosphine, amine, nitrile or CO ligand.

In a preferred embodiment of the invention, the bidentate ligand, L, is defined by the following formula:

wherein A is a bridging group-containing a Group 13-15 element; each E is independently a Group 15 or 16 element covalently bonded to M; each R is independently a C1-C30 containing radical or diradical group which is a hydrocarbyl, substituted-hydrocarbyl, halocarbyl, substituted-halocarbyl, hydrocarbyl-substituted organometalloid, halocarbyl-substituted organometalloid, m and n are independently 1 or 2 depending on the valency of E; and p is the charge on the bidentate ligand such that the oxidation of state of MX_r is satisfied.

In the most preferred embodiment of the invention, the bridging group, A, is defined by the following formulae: